

23. A monoclonal antibody which (a) binds to a soluble extracellular domain sequence of an Apo-2 polypeptide which consists of amino acids 1 to 182 of SEQ ID NO:1 and (b) stimulates apoptosis in at least one type of mammalian cell *in vivo* or *ex vivo*.

24. A monoclonal antibody which binds to a soluble polypeptide which is (a) an extracellular domain sequence of Apo-2 polypeptide which consists of amino acids 54 to 182 of SEQ ID NO:1 or (b) a fragment of (a) which binds Apo-2 ligand and is immunogenic, wherein said antibody stimulates apoptosis in at least one type of mammalian cell *in vivo* or *ex vivo*.

25. The monoclonal antibody of claim 21 or 24, wherein said antibody is a chimeric antibody.

26. The monoclonal antibody of claim 21 or 24, wherein said antibody is a humanized antibody.

27. A hybridoma cell line which produces the antibody of claim 21 or 24.

28. A dimeric molecule comprising the antibody of claim 24 linked to a heterologous immunoglobulin.

Claim 29 has been amended to read as follows:

E1 18 29. A homodimeric molecule comprising any two antibodies of claims 21, 22, 23 or 24.

30. The monoclonal antibody of claim 21 which is a human antibody.

31. The monoclonal antibody of claim 22 which is a human antibody.

32. The monoclonal antibody of claim 23 which is a human antibody.

33. The monoclonal antibody of claim 24 which is a human antibody.
34. The monoclonal antibody of claim 22 which is a chimeric antibody.
35. The monoclonal antibody of claim 23 which is a chimeric antibody.
36. The monoclonal antibody of claim 22 which is a humanized antibody.
37. The monoclonal antibody of claim 23 which is a humanized antibody.
38. The monoclonal antibody of claim 21 wherein said at least one type of mammalian cell is a cancer cell.
39. The monoclonal antibody of claim 22 wherein said at least one type of mammalian cell is a cancer cell.
40. The monoclonal antibody of claim 23 wherein said at least one type of mammalian cell is a cancer cell.
41. The monoclonal antibody of claim 24 wherein said at least one type of mammalian cell is a cancer cell.